

4. ORGANIZATION AND ADMINISTRATION

The Duke Cogema Stone & Webster (DCS) functional organizational structure is shown in Figure 4-1 for the design and construction phases of the Mixed Oxide (MOX) Fuel Fabrication Facility (MFFF) portion of the MOX Fuel Project.

The discussion herein will be updated in the license application for possession and use of special nuclear material (SNM) as appropriate to incorporate changes that may be necessary to reflect the following:

- Identification and functional description of the specific organizational groups responsible for operating the MFFF
- Authorities, responsibilities, and lines of communication among the operations organizational groups
- Operations organizational charts that depict the lines of responsibility and authority and the key management positions.

4.1 ORGANIZATIONAL STRUCTURE AND KEY MANAGEMENT POSITIONS DURING DESIGN AND CONSTRUCTION

The DCS functional organization structure indicates the lines of communication and control of activities associated with the design and construction of the MFFF. The reporting structure, along with functional responsibilities and levels of authority, for the various organizational entities is described below in the position descriptions for the MFFF design and construction phases of the project. Qualification requirements for these key management positions are also provided. Relevant work experience of at least five years, in addition to the minimum experience requirements specified below, may be substituted for educational Bachelors degree (or equivalent) requirements. Where work experience in more than one field is required for a given position (e.g., four years of engineering experience and two years of management experience), the experience may be concurrent unless otherwise indicated.

Stop-work authority within DCS is vested in each DCS employee, with respect to work within their scope of responsibility, whenever health and safety issues are involved. Following a stop-work, activities related to safety are controlled until the deficiency, or unsatisfactory condition, has been resolved. Responsible managers have the authority to delegate tasks to other individuals; however, the responsible manager retains the ultimate responsibility and accountability for implementing the applicable requirements.

The positions described below are DCS management personnel with responsibilities for the principal structures, systems, and components (SSCs) and related activities. DCS will establish management measures as necessary and appropriate to ensure availability and reliability of principal SSCs. These personnel are appropriately available to perform their duties during MFFF design and construction.

4.1.1 Office of the President

The President is responsible for project management of all DCS MOX Fuel Project activities, including those related to safety, and as such has the ultimate responsibility for the principal SSCs during MFFF design and construction. The President is the Chief Executive Officer of DCS. The Quality Assurance (QA) Manager reports directly to the President.

The Office of the President also includes senior management representatives responsible for implementing the direction of the President and integrating the functional areas discussed in the sections below. Other functional managers report to the President either directly or through these senior management representatives.

—The minimum qualifications for the President are a Bachelors degree (or equivalent) in engineering or science, five years of experience in operations and/or engineering of nuclear facilities, and five years of experience in management. The minimum qualifications for senior management representatives are a Bachelors degree (or equivalent), four years of management experience, and two years of nuclear industry experience.

4.1.2 QA Manager

The QA Manager reports directly to the President and is responsible for establishing and maintaining the DCS MOX Project QA Plan. This position is independent of the managers responsible for performing quality-affecting work and is independent of cost and schedule considerations.

The QA Manager may be assigned other duties; however, none of these duties is allowed to compromise the independence of this function or to prevent needed attention to QA matters. The QA Manager has the same access to the President as the line managers of the various functional areas of the project. This position is able to identify quality problems; initiate, recommend, or provide solutions; verify implementation of solutions; and ensure that further processing, delivery, installation, or use is controlled until proper disposition of a nonconformance, deficiency, or unsatisfactory condition has occurred.

The QA Manager has the responsibility for approval of the subcontractor QA programs and oversight and audit functions during MFFF construction. The site assigned QA personnel will provide daily oversight of construction activities and will perform audits of the construction management organization and the subcontractors. Each construction subcontractor will have a defined scope of work, contract terms and conditions specifying the QA/QC requirements and technical specifications and drawings, which specify the quality and technical requirements of the scope of work. Each subcontractor is required to perform the QA audits and QC inspections required by their DCS approved QA program. The Construction Management Organization is responsible for management of the subcontract and the QA Manager assures that the subcontractor conforms to the quality program approved for the subcontract work scope by providing oversight witness of final testing and audits of selected test activities.

The minimum qualifications for this position are a Bachelors degree (or equivalent), four years of QA-related experience, two years of nuclear industry experience, and one year of supervisory or management experience.

4.1.3 Project Services and Administration Manager

The Project Services and Administration Manager is responsible for managing project security control, document control, records management, and training functions. The minimum qualifications for this position are a Bachelors degree (or equivalent), four years of technical or programmatic management experience, and two years of nuclear industry experience.

4.1.4 Procurement Manager

The Procurement Manager is responsible for managing the procurement process for equipment and materials supporting the construction of the MFFF. This position is responsible for coordinating supplier evaluations, developing procurement packages, and obtaining legal input and review of contract terms and conditions. The minimum qualifications for this position are a Bachelors degree (or equivalent) and two years of related experience.

4.1.5 Environment, Safety, and Health Manager

The ES&H Manager is responsible for establishment of top-level project ES&H requirements and oversight of integration of ES&H requirements for nuclear safety, radiation protection, environmental protection, and industrial safety. This position works with line managers to ensure consistent interpretations of ES&H requirements, performs design reviews, and supports project change control reviews. The minimum qualifications for this position are a Bachelors degree (or equivalent) and four years of experience in ES&H or related disciplines.

4.1.6 MFFF Site Integration Manager

The MFFF Site Integration Manager is responsible for developing and maintaining SRS engineering and technical interfaces, including development and maintenance of work task agreements. During MFFF construction, this position will coordinate with SRS and other management personnel to support construction activities. The minimum qualifications for this position are a Bachelors degree (or equivalent) and two years of related experience.

4.1.7 MFFF Plant Operations and Startup Manager

The MFFF Plant Operations and Startup Manager is responsible during design for operability reviews. During construction, this position is responsible for development and qualification of operational processes, procedures, operational readiness and staff in preparation for startup testing and operations. The minimum qualifications for this position are a Bachelors degree (or equivalent) and four years of related experience. During the operations phase, this position is responsible for operation of the facility; therefore, responsibilities and qualifications for this position will be reestablished prior to initiation of facility operation.

4.1.8 MFFF Licensing & Safety Analysis Manager

The MFFF Licensing & Safety Analysis Manager is responsible for planning and execution of MOX Fuel Project licensing activities, including interfaces with regulatory agencies, and directs the development of the Integrated Safety Analysis. This function is responsible for the direct interface with the U.S. Nuclear Regulatory Commission (NRC) and support of project change

control reviews. The minimum qualifications for this position are a Bachelors degree (or equivalent) and four years of experience in engineering, licensing, or operations of nuclear facilities.

4.1.9 MFFF Engineering Manager

The MFFF Engineering Manager is responsible for the MFFF process and facility design, including establishment of design requirements and development and maintenance of design control procedures; construction management and constructability reviews during design; and design support. He is responsible for directing the efforts of the following functions (described in more detail in the following sections): Facilities Design, Process Design, Manufacturing Design, Software Design, Procurement Engineering, Site Engineering, and Systems Engineering. The minimum qualifications for the MFFF Engineering Manager are a Bachelors degree (or equivalent) in engineering or science, four years of experience in the design of nuclear facilities, and three years of experience in engineering management. The minimum qualifications for managers implementing the functions directed by the MFFF Engineering Manager are a Bachelors degree (or equivalent) in engineering or science and four years of related experience, at least two of which must be in the design of nuclear facilities.

4.1.9.1 MFFF Facility Design Function

The MFFF Facility Design function is responsible for the design of the facility and site-related interfaces for the MFFF, including structural, mechanical, electrical, instrumentation and control, nuclear, and safeguards and security design disciplines.

4.1.9.2 MFFF Process Design Function

The MFFF Process Design function is responsible for the design of the MFFF aqueous polishing and mixed oxide processes and for the development of systems and equipment specifications.

4.1.9.3 MFFF Software Design Function

The MFFF Software Design function is responsible for the design of the software needed to operate the control systems for the MFFF.

4.1.9.4 MFFF Procurement Engineering Function

The MFFF Procurement Engineering function is responsible for developing the detailed design/build and fabrication procurement specifications for the MOX process and aqueous polishing equipment.

4.1.9.5 MFFF Manufacturing Design Function

The MFFF Manufacturing Design function is responsible for the development of detailed design drawings of the MOX process and aqueous polishing gloveboxes including internal equipment.

4.1.9.6 MFFF Systems Engineering Function

The MFFF Systems Engineering function is responsible for development and maintenance of engineering integration processes, configuration management, and design requirements documents.

4.1.10 MFFF Construction Manager

The MFFF Construction Manager is responsible for construction review of the MFFF design, the construction cost estimate and construction schedule, construction subcontracting, and procurement planning. During construction, this position is responsible for managing the total construction of the MFFF. The Construction Management organization relies upon personnel support from project organizations that provide specialized services and expertise. This is accomplished through a line construction organization supported by personnel in the areas of project controls, Quality Assurance, Environment, Safety & Health, contracts administration, and procurement. The support staffs are under the operational control and direction of the MFFF Construction Manager. The support staff is also under the administrative and technical control of their respective project support organization manager. The Construction Management organization provides oversight and management of the subcontractors and vendors that are subcontracted to execute specific construction work scopes. The Construction Management Organization is discussed in Section 4.2. The minimum qualifications for this position are a Bachelors degree (or equivalent) and four years of experience in construction management.

4.2 CONSTRUCTION PLANS

DCS will perform construction management services during the construction phase of the project (i.e., DCS is responsible for planning, managing, and controlling construction activities and for ensuring that the facility conforms to applicable requirements, drawings, and specifications). Construction subcontractors have not yet been selected. Construction subcontractors will be managed through the MFFF Construction Management organization.

Subcontractor responsibilities are specified in subcontracts. The MOX Project QA Plan governs the relationship of contractors with the DCS organization. In particular, the following sections of the MOX Project QA Plan address this relationship:

- Introduction
- 1.0 Organization
- 2.0 Quality Assurance Program
- 4.0 Procurement Document Control
- 7.0 Control of Purchased Material, Equipment and Services.

Oversight and management of the construction subcontractors and vendors will be the responsibility of construction area management teams. Each construction area management team will be managed by a Construction Management Area Superintendent who has the overall responsibility to (1) monitor and coordinate area construction work-in-progress and (2) ensure that it meets the requirements of the plans and specifications and good work practices. Daily oversight and direct coordination with the subcontractor QA/QC organization are the

responsibility of the QA member of the construction area team (reports through the site assigned QA supervisor to the DCS QA Manager). Results of QA oversight activities will be reported to both the MFFF Construction Manager and the DCS QA Manager.

The construction engineers and discipline specialists will interface directly with their assigned subcontractors providing a point of contact for technical oversight and management. They also perform subcontractor/equipment vendor submittal reviews, construction acceptance of in progress and completed work, payment and schedule approval, coordination between subcontractors, issue resolution, change coordination, and corrective action resolution.

The Resident Engineer supports the construction area management teams at the site level. This position provides construction acceptance and other miscellaneous support to the area management teams as required. The Resident Engineer serves as a point of contact between the Construction Management organization and Engineering for engineering changes and as-built drawing information. This position provides site level survey control establishing site control points for subcontractor survey crew use and performs checks of subcontractor survey work as required. This position also performs the site materials management function for coordination and control of material/equipment warehouses and outside storage.

Various project functions provide support to the construction area management teams as indicated in Section 4.1.10. This support includes site security and building maintenance contracts, document control, records management, internal security, training, and personnel.

Configuration change control will be managed through a formal process that authorizes and documents changes to the design. Configuration management of the MFFF basis of design in accordance with the design documents generated and approved under the controls of the DCS QA Program is maintained to ensure the plant is built as designed. Construction changes are subjected to review and approval (e.g., from Engineering, QA, ES&H, safety analysis, and construction management, as appropriate) commensurate with the original design. The construction management individual responsible for the affected construction subcontract is responsible for coordination of associated reviews and approvals of construction change packages. Drawings are periodically reviewed by construction management personnel during the execution of the work and the drawings are updated at subcontract completion for operations use.

4.3 TRANSITION FROM DESIGN AND CONSTRUCTION TO OPERATIONS

DCS is completely responsible for the design, construction management, and operation of the MFFF. As the construction phase begins, the organizational structure will shift with an increased work scope and resources for the MFFF Construction Manager and a decrease in work scope for the MFFF Facilities Design Manager and the MFFF Process Design Manager.

Towards the end of construction, the focus of the MFFF organizational structure will shift from design and construction to operation of the MFFF. COGEMA MOX operations experience and domestic fuel cycle facility operations experience are used to develop the MFFF operations organization. The organizational structure for operations activities will reflect a manufacturing plant operating organization. Figure 4-2 shows the currently envisioned organizational structure

during operations. The Plant Manager would be responsible for the overall safety, operation, and maintenance of the MFFF in accordance with the NRC license.

As the construction of systems is completed, the systems will undergo acceptance testing as necessary, followed by turnover from the construction organization to the operations organization. The turnover will include the physical systems and corresponding design information and records. Following turnover, the operations organization will be responsible for system maintenance and configuration management. The design basis for the facility is maintained during the transition from construction to operations through the configuration management system described in Section 15.2.

4.4 INTERFACES

DCS is the licensee responsible for producing the detailed design of the MFFF and for operation of the facility. The management organization of DCS is discussed in Section 4.1. DCS establishes the interface points and requirements with SRS and ensures that the MFFF design is integrated appropriately into the SRS infrastructure.

The National Nuclear Security Administration (NNSA) facilitates the interface with DOE's Savannah River Operations Office (DOE-SR) and other SRS organizations such as the U.S. Forest Service, the SRS security contractor, and other service providers to DOE-SR such as South Carolina Electric & Gas (SCE&G). NNSA and DOE-SR also provide interfaces with respect to integration with SRS' emergency planning and response programs, worker training, and control of the SRS site (i.e., facilitating DCS' ability to remove or exclude personnel and property from the MFFF controlled area as necessary). In conjunction with NNSA and DOE-SR, the SRS Management and Operating (M&O) contractor is responsible for providing the utilities required to operate the MFFF and for receiving and treating the waste generated by the MFFF, and provides various support to DCS in areas such as site infrastructure, utilities, waste management, emergency services, site transportation, security, and training.

Interfaces between DCS and NNSA (along with DOE-SR) are controlled via DCS' contract with technical direction provided by the NNSA office in DOE Headquarters. The interfaces between DCS and the SRS M&O contractor are described through a Work Task Agreement (WTA) process administered by the NNSA (along with DOE-SR). Design-phase work task agreements are controlled, and are updated as appropriate for construction and operations. Interfaces subject to this process include various utilities, emergency services, waste management, and other infrastructure elements.

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Figures

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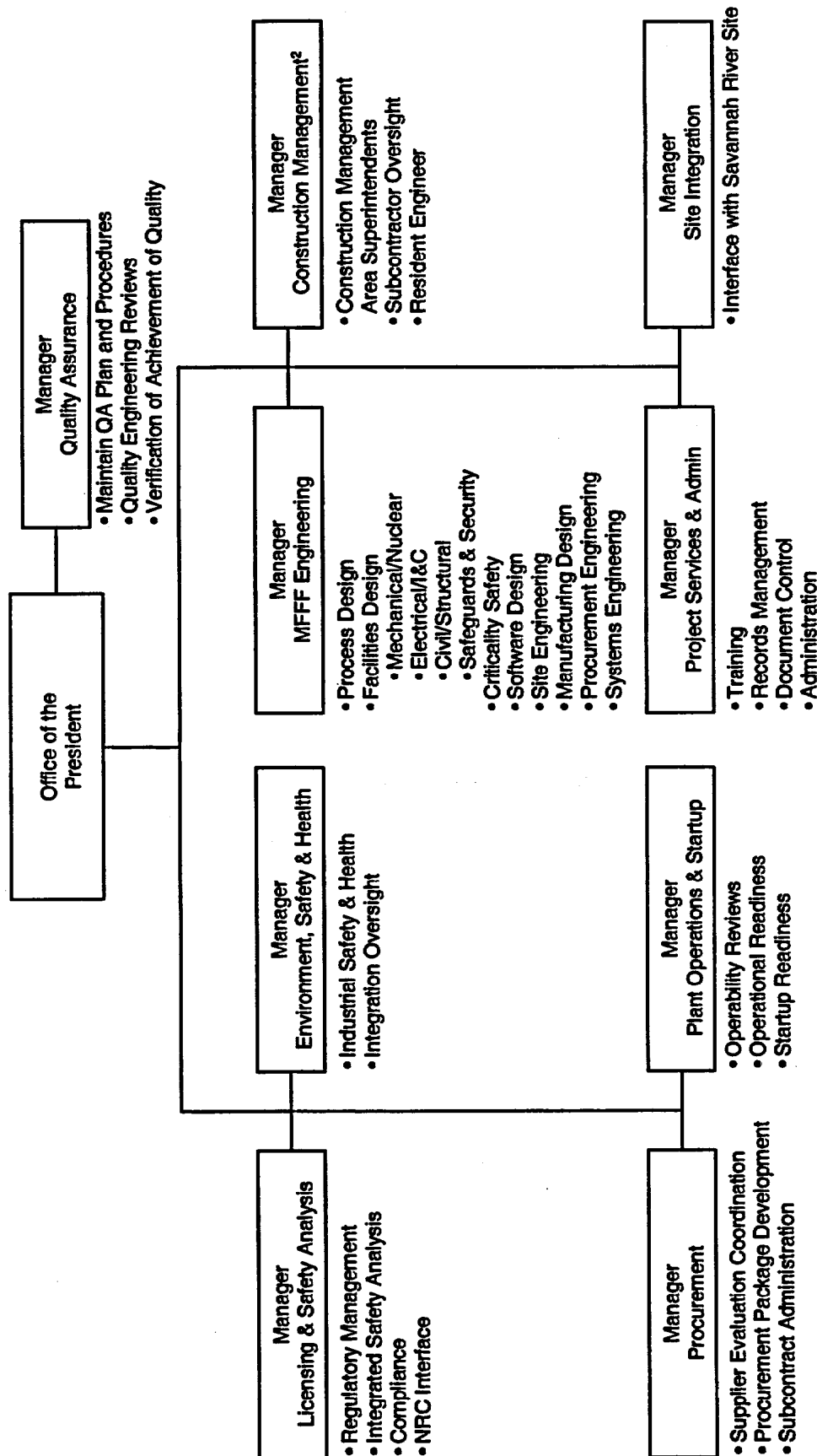


Figure 4-1. DCS Functional Organizational Structure During Design and Construction¹

¹ Non-MFFF/non-safety functions not shown include: Lead Assembly, Fuel Qualification, Irradiation, Packaging & Transportation, Project Controls, and Outreach

² All functions provide support to Construction Manager during construction

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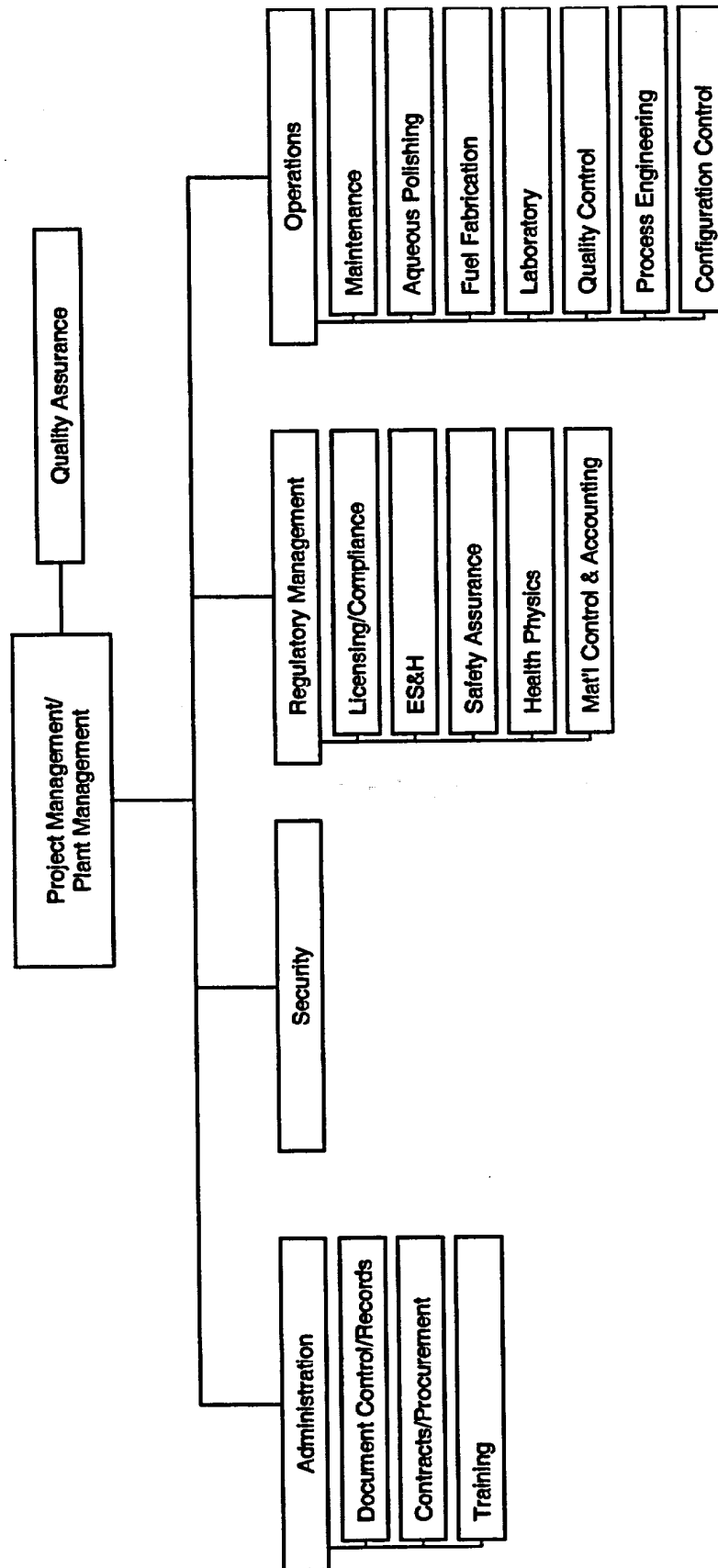


Figure 4-2. Conceptual Organization for Operations¹

¹ Non-MFFF/non-safety functions are not shown (e.g., Lead Assembly, Fuel Qualification, Irradiation, Packaging & Transportation, Project Controls, Outreach)

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